Comparison of Health Care Experience and Access Between Young and Older Adults in 11 High-Income Countries

Hargreaves, Dougal S ; Greaves, Felix ; Levay, Charlotta ; Mitchell, Imogen ; Koch, Ursula ; Esch, Tobias ; Denny, Simon ; Frich, Jan C ; Struijs, Jeroen ; Sheikh, Aziz

Abstract: PURPOSE Young adults (18-24 years) frequently report poorer health care access and experience than older adults. We aimed to investigate how differences between young and older adults vary across 11 high-income countries. METHODS A total of 20,045 participants from 11 high-income countries (i.e., Australia, Canada, France, Germany, the Netherlands, New Zealand, Norway, Sweden, Switzerland, United Kingdom, United States) participating in the Commonwealth Fund 2013 International Health Policy Survey. We compared young adults (18-24 years) with older adults (25-34; 35-49; 50-64; 65+ years) on three aspects of health care: overall satisfaction, cost barriers to access, and four indicators of consultation quality relating to adequate information, time, involvement, and explanation. RESULTS Across all participants, young adults reported significantly worse overall satisfaction (63.6% vs. 70.3%; $p < .001$) and more frequent cost barriers (21.3% vs. 15.2%; $p < .001$) than older adults. Country-level analyses showed that young adults reported lower overall satisfaction than older adults in five of 11 countries (Australia, Canada, Norway, Switzerland, United States) and more frequent cost barriers in six of 11 countries (Canada, France, Germany, Switzerland, Norway, United States). In five countries (Australia, Canada, France, Norway, Switzerland), most patient experience indicators were less positive among young adults than those among older adults. In three countries (Netherlands, New Zealand, United Kingdom), there was no significant difference between young and older adults on any indicator. CONCLUSIONS Associations between age and health care access/experience varied markedly between countries, suggesting that poor access and experience among young adults is not inevitable and may be amenable to policy/practice interventions.

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Abstract:
Purpose

Young adults (18-24 years) frequently report poorer healthcare access and experience than older adults. We aimed to investigate how differences between young and older adults vary across 11 high-income countries.

Methods

Participants: 20,045 participants from 11 high-income countries (i.e. Australia, Canada, France, Germany, Netherlands, New Zealand, Norway, Sweden, Switzerland, UK, US) participating.in the Commonwealth Fund 2013 International Health Policy Survey.

Measures/analysis: We compared young adults (18-24 years) with older adults (25-34;35-49;50-64;65+ years) on three aspects of healthcare: overall satisfaction, cost barriers to access, and four indicators of consultation quality relating to adequate information, time, involvement and explanation.

Results

Across all participants, young adults reported significantly worse overall satisfaction (63.6% vs. 70.3%;$p<0.001$) and more frequent cost barriers (21.3% vs. 15.2%;$p<0.001$) than older adults. Country-level analyses showed that young adults reported lower overall satisfaction than older adults in 5/11 countries (Australia, Canada, Norway, Switzerland, US), and more frequent cost barriers in 6/11 countries (Canada, France, Germany, Switzerland, Norway, US). In five countries (Australia,

Canada, France, Norway, Switzerland), the majority of patient experience indicators were less positive among young adults than older adults. In three countries (Netherlands, New Zealand, UK), there was no significant difference between young and older adults on any indicator.

Conclusions

Associations between age and healthcare access/experience varied markedly between countries, suggesting that poor access and experience among young adults is not inevitable and may be amenable to policy/practice interventions.

Dear Dr Charles E. Irwin, Jr.,

Many thanks for the opportunity to resubmit our revised manuscript for your consideration.

We found the reviewers' comments extremely helpful and have extensively revised the introduction and discussion sections to address their concerns. With regard to the associations between country-level factors and young adults' experience of healthcare, we have used a much more tentative tone throughout and removed these findings from the abstract and conclusions. We have also moved a significant portion of text presenting these findings from the discussion to the results section. Lastly, we have made several more minor changes to the methods and results sections.

Please find our detailed response to each of the reviewers' points below.

Yours sincerely

Dougal S Hargreaves (on behalf of all co-authors)

Reviewers' comments:

Reviewer #1: GENERAL COMMENTS
This clearly written manuscript examines healthcare experiences and access during young adulthood, a critical period of transition in the life course. By comparing young adults to older adults across countries, the analysis plan can demonstrate there is nothing inevitable about young adults' relatively worse outcomes in some countries.

SPECIFIC RECOMMENDATIONS FOR REVISION
MAJOR
Two major concerns substantially diminish the potential contribution of this study:

1. the extremely small Ns

RESPONSE: We agree that the number of young adult participants is relatively low in some countries, and present the N values prominently in Table 1 in order to make sure that readers are aware of this issue. However, as noted by Reviewer 2, this is an extremely large study overall, involving over 20,000 participants, of whom >2,000 were young adults. Clearly, the greatest risk with small N values is of Type 2 error, and it is therefore reassuring that the countries with no evidence of age differences between young and older adults (Netherlands, New Zealand and UK) had reasonably large N values (at least one thousand respondents overall; range for N of young adults = 108-134).

We believe that this study includes appropriate numbers for an interesting descriptive/exploratory paper, especially as there is currently limited literature on this topic (as noted by Reviewer 2). However, we agree that these data alone do not allow definitive conclusions to be drawn, especially about the association between health system factors and age differences. We have therefore amended the conclusion of the abstract and the article to

remove any mention of these findings, and we have used more tentative language to describe our findings throughout the paper.

2. lack of clarity about the specific study aims.

   RESPONSE: We are grateful to the reviewers for highlighting this important point and also the related points about including a logic model for our study and mapping the questionnaire items directly to our study aims. We have extensively revised the final paragraph of the introduction to introduce a clear hypothesis and clarify the study aims. We have also amended the middle section of the methods section so that each questionnaire item is clearly aligned with one of the revised study aims.

3. Another concern is the validity and reliability of the outcomes measures used to assess the quality of health care experiences. The manuscript does not present evidence that these measures are linked to outcomes related to health, health care, or health care-related behavior.

   RESPONSE: The questionnaire items related to patient satisfaction and experience are closely related to items in the Consumer Assessment of Healthcare Providers and Systems surveys (CAHPS) - which have been validated and are widely used by the Centers for Medicare and Medicaid Services (CMS) to measure healthcare quality - and items in NHS national surveys in the UK. We have revised the strengths and limitation section of the discussion to emphasize that these are validated measures of patient experience and - although we do not have space to discuss this interesting literature in detail - we cite a recent systematic review which found that improved scores on these patient experience measure are consistently associated with better objective and self-reported health outcomes.

4. Regarding the small N, the manuscript rightly names this as a study limitation and addresses this by comparing findings to other national studies in the relevant countries. Studies were identified for only four of the 11 nations studies (UK, US, Sweden and Australia; the Norway studies do not provide sufficient evidence). First, these studies should be part of the literature review in the introduction. Second, the existence of studies for a few countries does not substantially the limitations of the small N across 11 countries. Given the small N, the results from this study can be considered tentative at best and can framed as a starting point for further research. Broad conclusions about healthcare spending and financing systems are not warranted. The paper would be strengthened by putting these findings in that context.

   RESPONSE: Please see our response to point 1 regarding the N values. We have amended the introduction to include a brief mention of these national studies, although we have kept the main section relating our findings to previously published work in the discussion section, in line with JAH guidance to authors.

   As mentioned above, we agree that this article is best read as an exploratory study, and have amended the conclusion sections and the language used elsewhere accordingly.

5. Regarding the study aims, the manuscript presents a clear overall study goal at the end of the introduction ("We sought to explore whether low rates of satisfaction with young adults' healthcare services were an inevitable consequence of providing care to this age group - or whether national differences in services, culture and context could account for any of this variation.", lines 12-20, p 9)
However, the manuscript does specify how that overall goal is operationalized into specific study aims/questions. For example,
*the study includes an access outcome measure. While quite interesting and relevant to young adults, "access" is not included as a domain in the overall statement of study aims.
* no measures of "services, culture or context" are presented as such in the methods.
* A few measures and descriptions of national health care spending and financing systems are presented in the discussion. If these measures are part of the analysis and conclusions being drawn, then they need to be included in the methods and results.

RESPONSE: As mentioned in our response to point 2, we found these comments very useful and have extensively revised the introduction, aims and methods sections so that the overall goals, specific study aims and healthcare indicators are clearly aligned.

In particular, we have clarified the measures of national healthcare spending/system in each section, and emphasized these elements are purely descriptive, and formal analysis of the association between country-level factors and healthcare experience/access is not possible.

6. One possibility is to include a study logic model. As model might clarify how the aims were operationalized into variables and analyses. This is offered as a suggestion.

RESPONSE: See response to point 2. The final paragraph of the introduction now flows from the hypothesis we wish to test, to a description of the overall study goal, and then two specific study aims. As described above, the middle section of the methods section then maps each healthcare indicator to the relevant study aim.

MINOR
ABSTRACT
This is clear and well-written. Two notes:
7. * In "results," it is not clear why statistics and p values are presented for some countries and not others. It is understood that it is challenging to summarize results for 11 countries and six outcome variables in an abstract.

RESPONSE: The statistics and p values for individual countries have been deleted.

8. * The "conclusions" mentions the relationship (or lack thereof) of national healthcare spending to the study outcomes. This is not presented as a study variable earlier in the abstract. This relates to the larger point above, about lack of clarity of how study aims were operationalized.

RESPONSE: As described above, we have removed any comment about the country-level indicators on healthcare spending and healthcare system from the conclusion sections of both the abstract and the paper.

INTRODUCTION

The introduction is well written and makes a strong case for the importance of young adults' access to quality health care.
9. * For citations 15 & 16, which provide evidence that the ACA has expanded insurance for young adults, consider replacing one or both citations with the analyses of NHIS from the CDC listed below. The two citations are from Commonwealth Fund supported research, as is the research in this study. The manuscript would be strengthened by citing evidence from a broader range of entities that support/conduct research. Granted, the US government has a huge stake in showing positive results from the ACA.
* Kirzinger WK, Cohen RA, Gindi RM. Trends in insurance coverage and source of private coverage among young adults aged 19-25: United States, 2008-2012. NCHS data brief, no 137. Hyattsville, MD: National Center for Health Statistics. 2013. http://www.cdc.gov/nchs/data/databriefs/db137.pdf.
* U.S. Dep't of Health & Human Services. News Release: New Health Care Law Helps More Than 3 Million Young Adults Get and Keep Health Care, June 19, 2012. http://www.hhs.gov/news/press/2012pres/06/20120619b.html.

RESPONSE: We have replaced the second reference from the Commonwealth Fund research and replaced it with the Kirzinger et al reference above.

10. * As noted above, the overall study goal needs to be translated into specific study aims.

RESPONSE: Done – see final paragraph of the introduction section.

11. * As noted above, the national studies described in the Discussion should be included in the literature review in the introduction.

RESPONSE: Done

METHODS
Overall, this section is well written. There are a few concerns related to points raised above:
12. * The variables are not presented in terms of how they relate to the study goals. One can make guesses, but this should be made explicit.

RESPONSE: Done

13. * The variables introduced in the discussion - health care spending and national financing systems - should be introduced here if the authors aim to draw conclusions from them.

RESPONSE: Done – see paragraph under the heading ‘Country-level factors’

14. * There should be some discussion of the validity and reliability of the satisfaction measures. Are they linked to any health outcomes or health care behavior (e.g., compliance with clinician recommendation, attending follow-up appointments)? At the very least, the manuscript could address the extent to which these measures have been used in the literature on "consumer" experience with health care services.

RESPONSE: Done (see response to point 3 and the revised material in the first paragraph of the ‘strengths and limitations’ section of the discussion.

RESULTS
15. The section is well written and easy to follow. As noted above, if the authors intend to draw conclusions from differences among the countries by healthcare spending and financing systems, then these results should be presented in this section.

RESPONSE: Done – the four paragraphs describing the associations between healthcare access/experience and health spending and financing systems have been adapted slightly and moved from the discussion section to the end of the results section.

No comments on the tables.

DISCUSSION and Conclusions
This section is well written and easy to follow. The primary concerns have been raised above:
16. * given the limited N, conclusions drawn from this study should be presented as "modest" or
. preliminary. Perhaps they can be framed in terms of how they point to future research.

RESPONSE: Done (see comments in response to point 2)
*
17. The national studies introduced on pages 17 and 18 should be in the literature review in the introduction. Moreover, the N is small and relevant literature was located for only a few of the 11 countries studies, so few conclusions can be drawn.

RESPONSE: Done

18. * healthcare spending and financing systems should not be introduced as new analysis variables in this section.

RESPONSE: This material is now introduced in the methods section (paragraph with the heading 'Country-level factors') and the findings presented at the end of the results section (4 paragraphs under the heading 'Associations between healthcare systems and young adults' healthcare experience/access').

Reviewer #2: General Comments

This is a very large study across 11 high income countries comparing the experience of young adults and older adults in accessing healthcare and their satisfaction with their consultations. The data on young adults' health and their use of health care is only beginning to accumulate and this study is a useful contribution to this body of literature.

The paper is interesting, well written and easy to understand.

Methods and Analysis:
The method is described clearly and succinctly. Analysis is appropriate.

Discussion and conclusions

18. One significant limitation as stated by the authors is the low response rate of the survey, especially with young adults. The authors have attempted to address this by comparing the findings of individual countries with previous literature.

RESPONSE: We agree this is a significant limitation, and have been careful to address it as fully as possible. Although we are clearly unable to address low response rates at this stage, this comment reinforced our move towards using more tentative language when describing our findings throughout the paper.

With young adults in 8 out of 11 countries reporting a poorer experience of health care across a number of indicators, the results do support the notion that poorer reported healthcare experience is not likely to be due to age/ maturity alone or differential expectations of healthcare with ageing (as previously suggested) but more likely to be factors associated with the delivery of healthcare or to health policy.

Specific Recommendations

19. Tables 1 and 2 are in the reverse order and do not correspond to the information provided on pg 5 and 6.

RESPONSE: We are grateful for this comment and have amended the ordering and description of the tables accordingly.

20. Table 2 (should be Table 1) For question 2 of the questionnaire items it may be helpful to emphasize that the standard for healthcare is at the level of best practice, with outcomes dichotomized at "ALWAYS vs often, sometimes, rarely or never".

RESPONSE: Done (see 1st paragraph underneath the Healthcare Indicators heading in the methods section).

21. This reviewer would be more reassured about the low response rate and concerns about the possibility of sampling bias and lack of generalisability of the data if the authors could comment on any information regarding the non respondents (different to the population?)

RESPONSE: Again, this was an extremely useful comment. In the third paragraph of the methods section, we have included a comparison of responders and non-responders in US data, illustrating that non-responders were more likely to be male, younger, be educated beyond high school, have a cell phone only, live in the North East or South, be Hispanic/Black Non-Hispanic, uninsured.

We have also used this opportunity to emphasize that differential non-response was addressed through weighting.

Reviewer #3: In general this is an interesting descriptive piece about healthcare access and experience in young adulthood vs later adulthood, across 11 developed countries.

22. For readers who do not know about the survey, a bit more detail would be helpful, and perhaps it would be helpful to put a table in that outlines key aspects of health policy between the countries. Some of this latter information is in the text, but I think a summary table would be helpful.

RESPONSE: We found this to be another very useful comment and have included a summary table of key aspects of different healthcare systems as an Appendix (reprinted from the Commonwealth Fund with permission). As noted above, we have extended the description of response rates and characteristics of non-responders to the survey. Unfortunately, we do not have space to describe other aspects of the survey in more detail, but we hope that interested readers will find all the information readily available in the references provided.

23. I had a couple of small points that seem relevant. (1) US health policy, and maybe others, defines access in some ways based on income. I don't understand why this was not controlled.

RESPONSE: We agree that interactions between age and sociodemographic variables such as income and education are very interesting. However, we did not feel it was appropriate to include further analyses on these issues in this paper, for the following reasons.

Firstly, they are beyond the scope of our study aims (which have already been extended in line with earlier reviewer comments).

Secondly, there is a risk that controlling for income will 'over adjust' our findings. If young adults report poorer healthcare experience than older adults, and if – as we argue – young adulthood is an important phase when lifelong health behaviors are established, then that is an important finding with significant policy implications, regardless of whether the difference is mediated through, or confounded by, income, education or other factors.

Thirdly, the data on income and education in the Commonwealth Fund surveys are very limited and not always consistent between countries, so adjusting for them would risk adding another layer of caveats when interpreting our findings.

24. (2) Likewise, I was left wondering about the effects of education as higher education may be related to be better access, as well as better experience.

RESPONSE: As above, we agree that this would be very interesting but feel these analyses are beyond the scope of this study (see response to point 23). In addition, we note that there are additional limitations in adjusting for education among young adults, many of whom have not yet completed their education.

25. (3) Finally, there is some discussion about health policy being the driver of the findings -- i.e., if we change certain provisions or work on young adult friendlier healthcare experiences, some of the differences will dissipate. However, I think there is an alternate issue that isn't really considered. That is, the age differences may truly be masking "learned" differences -- i.e., older adults may presumably also have learned to work the system better

because they have had more experience with it. I do not think there is a way to assess that in the current study, but seems like it may be something worth considering in the discussion.

RESPONSE: Thank you for this interesting point, which we had not previously considered. The implication of this comment is that country-level patterns in differential healthcare experience between young and older adults could reflect the ease with which young adults learn to navigate different systems. We agree that further analysis of this point is again beyond the scope of the current study, but have mentioned this as a possible confounder in the third paragraph of the strengths and limitations section.

Comparison of healthcare experience and access between young and older adults in 11 high-income countries

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Role of the funding source

The Commonwealth Fund had no role in: the design and conduct of the study; collection, management, analysis, and interpretation of the data; and preparation, review, or approval of the manuscript. The views presented here are those of the authors and should not be attributed to The Commonwealth Fund or its directors, officers or staff.

Conflicts of interest

All authors declare they have no conflicts of interest to report.

Comparison of healthcare experience and access between young and older adults in 11 high-income countries

Implications and contribution

Young adults frequently report worse healthcare experience and access than older adults. This study found wide variation across high-income countries, with no significant differences between young and older adults in 3/11 countries (Netherlands, New Zealand, UK), suggesting that such differences are not inevitable and may be amenable to policy/practice interventions.

ABSTRACT

Purpose

Young adults (18-24 years) frequently report poorer healthcare access and experience than older adults. We aimed to investigate how differences between young and older adults vary across 11 high-income countries.

Methods

Participants: 20,045 participants from 11 high-income countries (i.e. Australia, Canada, France, Germany, Netherlands, New Zealand, Norway, Sweden, Switzerland, UK, US) participating.in the Commonwealth Fund 2013 International Health Policy Survey.

Measures/analysis: We compared young adults (18-24 years) with older adults (25-34;35-49;50-64;65+ years) on three aspects of healthcare: overall satisfaction, cost barriers to access, and four indicators of consultation quality relating to adequate information, time, involvement and explanation.

Results

Across all participants, young adults reported significantly worse overall satisfaction (63.6% vs. 70.3%;$p<0.001$) and more frequent cost barriers (21.3% vs. 15.2%;$p<0.001$) than older adults. Country-level analyses showed that young adults reported lower overall satisfaction than older adults in 5/11 countries (Australia, Canada, Norway, Switzerland, US), and more frequent cost barriers in 6/11 countries (Canada, France, Germany, Switzerland, Norway, US). In five countries (Australia, Canada, France, Norway, Switzerland), the majority of patient experience indicators were less positive among young adults than older adults. In three countries (Netherlands, New Zealand, UK), there was no significant difference between young and older adults on any indicator.

Conclusions

Associations between age and healthcare access/experience varied markedly between countries, suggesting that poor access and experience among young adults is not inevitable and may be amenable to policy/practice interventions.

Key words

Health care quality, access and evaluation

Health care systems

Young adults

Patient experience

Young adulthood (18-24 years) is increasingly recognized as a formative stage of the life course, when lifelong health attitudes and behaviors are established.(1)(2) For health services, adolescence and young adulthood offer a critical developmental window, when engaging young people with their health can result in lifelong better health and reduced future need for healthcare services.(3) This opportunity is, however, often lost because health services fail to meet the distinct needs of this population group.(4)(5)(6) Clinical outcomes deteriorate during this age group for many long-term conditions,(4)(7) and patient experience surveys show that young adults in the United States (US) and England typically report poorer experiences of healthcare than children and older adults.(4)(8)(9)(10)

It is not known to what degree poorer patient experience among young adults represents genuine inequity in the quality of service provided. Patient experience measures are influenced by both provider factors (objective quality of service) and patient factors (expectations).(8)(11) Previous authors have suggested that poorer ratings by younger adults may reflect a cohort effect (i.e. higher expectations of healthcare among younger generations), age-related differences in preferred consultation style, or distinct healthcare priorities in this age group.(11)(12)(13) Previous national surveys from Australia,(14) Sweden,(15) the UK,(16) and the US(17) suggest that the magnitude of age differences in healthcare experience may differ significantly between countries. However, because of important methodological differences, these surveys cannot be compared directly, and there are no previous cross-country studies of healthcare quality for young adults. As a result, it is not clear whether age differences in patient experience are consistent across different countries or vary depending on healthcare, policy, or societal factors in each country.

It is also not known to what degree poorer patient experience in this group reflects greater financial barriers to accessing care. For example, in the US, lack of health insurance and financial barriers to accessing care have historically been higher among young adults than any other age group,(18) although there is early evidence that insurance rates have improved following the 2010 Affordable Care Act.(19)(20)

We hypothesized that perceived cost barriers and healthcare experience among young adults may be influenced by both individual-level factors (e.g. age) and country-level factors (e.g., national healthcare system, total national healthcare spending). To investigate the relative importance of these two levels, we sought to explore whether lower rates of satisfaction and higher rates of forgoing care were seen consistently across countries – suggesting they may be an inevitable consequence of providing care to this age group – or whether national differences in services, culture and context could account for any of this variation.
Using data from the Commonwealth Fund's International Health Policy Survey, we compared healthcare access and experience among young (18-24 years) and older (≥25 years) adults across 11 countries. We then explored whether there were any associations between national systems of healthcare funding/delivery and healthcare access/experience among young adults.

METHODS

Participants

We analyzed data on 20,045 adults (≥18 years) including 1,463 young adults (18-24 years) from 11 high-income countries (i.e. Australia, Canada, France, Germany, the Netherlands, New Zealand, Norway, Sweden, Switzerland, the UK and the US) who took part in the 2013

Commonwealth Fund International Health Policy Survey.(21) This is an annual telephone survey of the general population in each country. Results are weighted to be nationally representative using data on age, sex, region and education; additional weighting variables are also used in some countries for consistency with national polling practice (for example, race/ethnicity in the US).

Age groups were defined as 18-24 years (young adults), and 25-34, 35-49, 50-64, 65+ years. The number of respondents in each country/age category is presented in Table 1.

The response rate ranged from 11% (Germany, Norway) to 33% (Switzerland). In the US (response rate 22%), non-responders were more likely to be male, younger, educated beyond high school, have only a cell phone, be Hispanic/black non-Hispanic, and be uninsured. Similar patterns of non-response were seen in other countries. Differential non-response was addressed through weighting to provide nationally representative findings for each country. Full details of the methodology used for the 2013 Commonwealth Fund International Health Policy Survey have been published previously.(21)

Healthcare Indicators

To assess experience/satisfaction with healthcare, we selected five questionnaire items relating to the quality of medical care. The first item reports overall assessment of the care patients have received from their regular doctor over the past 12 months; the remaining items relate to specific aspects of patients' experience of care (whether the doctor always has enough information, spends enough time, involves you in decisions about care and treatment, and explains things in a way that you can understand). As shown in Table 2, the response

'always' represents the level of best practice; a dichotomous variable was created by aggregating the other four responses.

Cost barriers to accessing healthcare were assessed by combining responses to three questionnaire items relating to any cost barrier to accessing care or completing recommended tests or treatment (including prescribed medicines) over the past 12 months. The exact wording of each questionnaire items, and the way in which responses were dichotomized, are presented in Table 2.

Country-level factors

For the exploratory analyses of association between young adults' healthcare access/experience and country-level factors, we used data on national healthcare spending per capita from the Organization for Economic Co-Operation and Development (OECD)(22) and descriptions of the national healthcare systems by the Commonwealth Fund(23) (see Appendix).

Analyses

We first calculated the proportion of respondents in each age category that gave a positive response for each indicator. All proportions were weighted to be nationally representative. We then used chi-squared tests (2-sided) to calculate the significance of difference in proportions between young adults (18-24 years) and the other four age groups (25-34, 35-49, 50-64, 65+).

For the next set of analyses, responses from the older four age bands were aggregated into a single category of older adults and a further comparison was made between young adults (18-24 years) and all older adults (25+).

The analyses by age were then repeated for each country separately. Due to smaller sample sizes, the significance of differences in response for individual countries was only calculated between young adults (18-24 years) and all older adults (25+). Significance was defined as $p<0.05$.

All analyses were conducted using SPSS v21 (IBM Corp. Released 2012. IBM SPSS Statistics for Windows, Version 21.0. Armonk, NY: IBM Corp.).

RESULTS

Comparison of healthcare access and experience between age groups across all countries

Figure 1 shows the proportion of participants in each age group, across all countries that responded positively to each indicator of healthcare experience. Table 3 presents the proportions, and statistical significance of difference between, young and older adults, for each indicator. Participants aged 18-24 years were significantly less likely than older adults (25+ years) to report positive care experience, and more likely to report financial barriers to receiving recommended care: very good overall care (63.6% vs. 70.3%), information (48.2% vs. 62.7%), time (43.3% vs. 58.2%), involvement 50.0% vs. 62.5%), explanation (57.2% vs. 68.0%), cost barriers (21.3% vs. 15.2%); (all $p<0.001$).

Compared to adults aged 25-34 years, young adults (18-24 years) were less likely to report that their doctor spent enough time with them (43.3% vs. 47.3%, p=0.007), or that their doctor explained things clearly (57.2% vs. 60.2%, p=0.04). They were more likely to report cost barriers to accessing healthcare over the past year (21.3% vs. 18.0%, p=0.003). However, there was no significant difference in the responses of participants aged 18-24 years and 25-34 years for the indicators relating to overall care, information and involvement.

When young adults (18-24 years) were compared to older age groups, significant differences were seen for all indicators (35-49 years, all $p \leq 0.002$; 50-64 years, all $p < 0.001$; 65+ years, all $p < 0.001$).

Analysis of young adult's healthcare experience by country

Overall satisfaction with care delivered by regular doctor

Figure 2 presents the proportion of respondents reporting very good or excellent overall care in each age group for each individual country. Table 3 presents the proportions, and statistical significance of difference between, young and older adults, for each indicator by country. Young adults were significantly less likely to report excellent or very good care than older adults in five countries (i.e. Australia: 67.7% vs. 75.7%, p= 0.01; Canada: 64.8% vs. 74.6%, p<0.001; Norway: 49.5% vs. 66.0%, p=0.001; Sweden: 41.7% vs. 56.7%, p<0.001; US: 66.7% vs. 74.7%, p=0.02). No significant differences were seen between young and older adults for the other six countries (i.e. France, Germany, Netherlands, New Zealand, Switzerland and the UK).

Experience of consultations

Figure 2 also presents age differences in each country for the four indicators of consultation quality. In three countries (i.e. Australia, Canada, Switzerland), a statistically significant difference was seen between young and older adults on all four indicators. The largest differences were seen in Australia (range 33.8-38.9 percentage points difference, all $p<0.001$). Significant differences were seen on 3/4 indicators in France (the exception was clear explanation ($p=0.06$)) and Norway (the exception was information ($p=0.05$)). Only one indicator showed significant age differences in the US (59.2 vs. 70.9% for clear explanation, $p=0.001$) and Germany (70.0 vs. 81.5% for information ($p=0.01$)). No significant age differences were found for New Zealand, the UK or the Netherlands, while young adults in Sweden were more likely than older adults to report that their doctor explained things clearly (67.9 vs. 58.9%, $p=0.02$).

Cost barriers

The prevalence of cost barriers to healthcare in each country is presented in Figure 2. The largest difference in cost barriers between young and older adults was in Norway (28.6 vs. 8.0%, $p<0.001$), while the highest prevalence of cost barriers in all age groups was in the US (52.2% vs. 35.2%, $p<0.001$). Supplementary analyses showed that the prevalence of cost barriers was 73.5% among US young adults without continuous health insurance over the past year, compared to 31.5% among those who had continuous health insurance. Young adults were significantly more likely to report cost barriers than older adults in a further four countries: Canada (17.8% vs. 12.9%, $p=0.002$), France (27.1% vs. 16.7%, $p=0.003$), Germany (22.1% vs. 14.2%, $p=0.04$), Switzerland (21.5% vs. 11.6%, $p=0.002$). In Australia, young adults were less likely to report cost barriers than older adults (10.6% vs. 17.2%,

p=0.005). No significant differences were seen between the two age groups in the remaining countries (Netherlands, New Zealand, Sweden, UK).

Associations between healthcare systems and young adults' healthcare experience/access

Exploratory analyses showed that higher overall healthcare spending per capita did not appear to be associated with smaller age differences in healthcare access/experience. For example, the three OECD countries with the highest healthcare spending per capita (US $8,508, Norway $5,669 and Switzerland $5,643)(22) all had among the largest differences in healthcare experience between young and older adults, while two countries with among lowest healthcare spending (New Zealand $3,182 and the UK $3,405) were among the best-performing countries for the healthcare experience of young adults – in both absolute and relative terms.

Some tentative associations were also noted between national healthcare systems (described in the Appendix) and age differences in healthcare access/experience (shown in Table 3). For example, countries with national health services funded through general tax revenue (e.g. New Zealand, Sweden and the UK)(23) often had relatively good patient experience among young adults, and were less likely to report large differences between young and older adults. However, an exception to this pattern was Norway, which also has a national health service, and where patient experience among young adults was relatively poor when compared to both other countries and older adults in Norway.

Similarly, countries with statutory health insurance plans often had large differences between young and older adults, especially for cost barriers (e.g. France, Germany, Switzerland).(23)

However, this system is also used in Netherlands, where no significant differences were reported between young and older adults.

Among the largest and most consistent differences between young and older adults were seen in Australia, Canada and the US. These systems are characterized by basic state-funded healthcare programs (e.g. Medicare), with extensive use of private insurance for services or populations not covered within the state program.(23) All of these countries have wide internal variation between states or provinces, so firm conclusions are difficult to draw from national data.

DISCUSSION

Young adults reported worse healthcare experience and/or access than older adults in at least one indicator in eight out of the 11 high-income countries studied. This demonstrates that poorer access and experience of healthcare among young adults is an important issue across many high-income countries, and that concern about this issue should not be confined to US/UK where it has been most studied previously.(4)(9) The inconsistent effect of age in our cross-country analyses suggests that poorer reported healthcare access and experience among young people is not inevitable and cannot be fully accounted for by factors such as patients' age/maturity, or intergenerational differences in expectations of healthcare.

Rather, it seems likely that differences in healthcare access and experience between young and older adults are also influenced by health system considerations and that these are therefore potentially amenable to policy and/or practice interventions in the poorer performing countries. However, it is also clear that these interactions are complex, and for

policy changes to be effective, they must take account of specific contextual factors in each country.

Strengths and limitations

A key strength of this study is the use of survey data that were collected in a consistent way across 11 countries. The survey used validated measures of patient experience, closely related to the questions asked in other established national level patient experience surveys, such as HCAHPS in the US and the national NHS inpatient and general practice surveys in the UK. Better patient experiences in these surveys have been demonstrated to be associated with improved quality and safety of care.(24)

The data have several limitations: for example, language and cultural differences may account for some of the differences in responses between participants in different countries. However, these influences were largely controlled for by comparing young and older adults within each country.

Another limitation is that this study does not allow investigation of why the observed age differences occurred. For example, young adults' poor access and experience of care could reflect lack of experience in navigating complex health systems, or could be confounded by socio-demographic factors, including race/ethnicity, income and education. Race and ethnicity are known to influence access to, and experience of, health care,(12) and there is known to be greater racial/ethnic diversity among young people than older groups in the US and other countries.(4) Similarly, the link between healthcare access/experience and income and education are well-established, and both income and education level vary significantly

between age groups. Although such analyses were beyond the scope of the present study, these questions represent interesting areas for further research.

A more significant limitation of these findings is the relatively low response rate to the surveys, and the low numbers of young adults in some countries (notably Norway and Germany). In the following section, we attempted to mitigate this risk by comparing our findings to those of larger national studies within each country.

Comparison of individual country findings with previous literature

We identified comparable data on healthcare experience and access among young adults in 5 countries: UK, US, Australia, Norway, Sweden. UK data from the General Practice Patient Surveys(16) and US data from the Medical Expenditure Panel Survey,(17) show small differences in patient experience between young and older adults consistent with our findings. In the UK, the fact that the small age differences were not statistically significant in our study are likely to reflect differences in sample size between our study and the General Practice Patient Survey (N=1,000 vs. N>66,000). The data on cost barriers are also supported by previous literature: few costs barriers to accessing healthcare have been reported in the UK,(25) while cost barriers and lack of healthcare insurance has been widely reported in among young adults in the US.(20)

Data from the national patient experience survey in Australia,(14) are also consistent with our findings, showing much poorer patient experience among young than older adults. However, we were unable to find comparable data on cost barriers to access at different ages.

The only national patient survey identified in Norway(26) covered inpatient care and did not publish patient experience data by age group. However, one study from Oslo found low rates of primary care utilization among 16 year olds, especially males, which increased significantly following targeted information about confidentiality and other aspects of the services. This study highlights how lack of information and/or negative perceptions of care quality can result in young people not accessing the care they need.(6)

Lastly, the Swedish government commissions a regular population survey on attitudes to healthcare, which reports 60% response rate and over 40,000 replies.(15) These data showed no significant difference between young and older adults in the proportion reporting high or quite high confidence in primary care. In contrast, our study found inconsistent age effects in Sweden, with young adults reporting better care than older adults on one measure (clear explanation), but poorer overall care. Although the questions asked in the two surveys are not directly comparable, the discrepancy in age effects between our data and the national survey suggests that our Swedish findings should be interpreted with caution.

Policy implications

The first key message from these data is that worse healthcare access and experience among young adults are not inevitable.

Second, as in previous cross-country analyses by the Commonwealth Fund, there is a striking lack of correlation between overall health expenditure in a country and the quality of care reported by young adults. As noted above, two of the best-performing countries – New Zealand and the UK – spend much less on healthcare than lower performing countries such as the Norway, Switzerland and the US.

Third, these findings show that healthcare experience is often worse at a critical stage of the life course, when lifelong health attitudes and behaviors are established. Poor quality or difficult to access healthcare services for young adults may result in both short-term harm and long-term disengagement with health services, causing poorer population health outcomes and higher overall costs to the healthcare system. Greater awareness of young adults' needs among clinicians and policymakers may lead to greater use of evidence-based interventions to improve their long-term health outcomes. For example, initiatives to improve the accessibility and quality of care for adolescents and young adults have been linked to greater primary care utilization in Norway(6) reduced failure rates of kidney transplants in the UK,(7) and improved inpatient outcomes in Australia.(27)

Finally, regarding funding systems and national policy, the lessons are less clear and serve as a reminder that in each country, context - and performance - differ. Consequently, different approaches for improvement will be needed in each country. For example, compared to older adults, young adults in Australia report poorer patient experience but fewer cost barriers to healthcare. These findings emphasize the importance of ongoing work in Australia to measure and improve the provision of age appropriate services for adolescents and young adults.(27)(28) In contrast, German data show no significant differences in consultation quality between young and older adults, but young adults have significantly greater cost barriers to accessing care. This suggests that the policy focus should be on understanding and addressing cost barriers among young adults.

In the US, the Affordable Care Act (2010) mandated inclusion of young adults on family healthcare insurance plans, leading to a significant subsequent increase in insurance coverage

among young adults.(19)(20) However, despite these early improvements, over 50% of young adults still experienced cost barriers to medical care or treatment in the 12 months prior to the 2013 survey, ranging from 73.5% among those without continuous insurance to 31.5% of those with continuous health insurance. Thus, even insured young adults in America report higher cost barriers to care than the general population of young adults in other high-income countries. Policies to improve the quality as well as the prevalence of health insurance among young adults should be a key component of strategies to reduce the poor health outcomes of the US population relative to other developed countries.(29)

Findings on young adults' healthcare access and experience in the UK were broadly positive. While concerns have been raised about young adults experiencing greater barriers to accessing healthcare than other age groups, the NHS continues to provide a service that is free at the point of delivery for patients of all ages. Similarly, the UK Government has published universal, validated standards for young people friendly care (although this was developed for adolescents aged 11-19 years,(30) it has subsequently influenced services development and redesign for young adult services).(31) However, there is no room for complacency, as mortality trends among young adults in the UK have deteriorated relative to other Western European countries in recent years, with particular concern about the high rate of deaths from non-communicable diseases.(32) Again, ensuring access to high quality services for adolescents and young adults should be a key component of strategies to reverse these trends.

Conclusions

In this cross-country study of 11 high-income countries, young adults reported poorer experience of healthcare and greater cost barriers to accessing care than older adults.

However, these overall figures mask significant differences between countries. In three countries (i.e. Netherlands, New Zealand and the UK) there was no significant difference between young and older adults on any indicator.

These findings provide cause for cautious optimism that the quality of care experienced by young adults is amenable to intervention – at both policy and practice levels – and that improvement need not require large increases in healthcare spending.

List of Tables and Figures

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Table 1. Participants by country and age group, Commonwealth Fund 2013 International Health Policy Survey

	18-24	25-34	35-49	50-64	65+	Total
Australia	267	384	605	528	416	2200
Canada	286	572	1274	1821	1459	5412
France	99	218	435	387	267	1406
Germany	58	169	262	330	306	1125
Netherlands	108	149	280	265	198	1000
New Zealand	134	176	273	232	185	1000
Norway	47	61	216	318	358	1000
Sweden	98	229	504	769	800	2400
Switzerland	150	232	430	369	319	1500
United Kingdom	115	167	282	232	204	1000
United States	101	202	401	650	648	2002

E. Table

Table 2. Questionnaire items and dichotomous outcomes used to assess healthcare experience and access among young and older adults, Commonwealth Fund 2013 International Health Policy Survey.

Question 1: Overall, how do you rate the medical care that you have received in the past 12 months from your regular doctor's practice or clinic?

Responses: ***Excellent, very good*** *vs. good, fair, poor.*

Question 2. When you need care or treatment, how often does your regular doctor or medical staff you see:

- Known important information about your medical history?
- Spend enough time with you?
- Involve you as much as you want to be in decisions about your care and treatment?
- Explain things in a way that is easy to understand?

Responses: ***Always*** *vs. often, sometimes, rarely or never.*

Question 3. During the past 12 months, was there a time when you

- Had a medical problem but did not visit a doctor because of cost?
- Skipped a medical test or treatment or follow-up that was recommended by a doctor because of the cost?
- Did not fill a prescription for medicine, or you skipped doses of your medicine because of the cost?

Responses: ***Yes*** *vs. no* (answering yes to ANY of the three items was categorized as a cost barrier to medical care).

Table 3. Healthcare experience and access among young and older adults in 11 high-income countries.

	Very good overall care (%)		Doctor always knows information (%)		Doctor always spends enough time (%)	
	Young adults	Older adults	Young adults	Older adults	Young adults	Older adults
All participants	63.6***	70.3	48.2***	62.7	43.3***	58.2
Australia	67.7*	75.7	29.6***	66.0	30.4***	64.2
Canada	64.8***	74.6	44.8***	61.7	35.7***	55.2
France	65.1	62.3	48.0*	57.5	33.5***	54.0
Germany	63.2	60.6	70.0*	81.5	74.2	73.6
Netherlands	68.1	68.7	54.9	65.4	53.9	57.2
New Zealand	81.3	85.3	74.8	74.9	66.1	71.9
Norway	49.5**	66.0	47.7	57.8	33.9***	52.4
Sweden	41.7***	56.7	46.6	51.1	46.3	50.5
Switzerland	64.8	66.3	39.0***	61.1	32.9***	53.4
United Kingdom	67.6	75.3	56.3	65.8	56.3	61.7
United States	66.7*	74.7	55.0	60.3	57.4	60.9

	Doctor always involves you (%)		Doctor always explains clearly (%)		Any cost barrier to accessing healthcare (%)	
	Young adults	Older adults	Young adults	Older adults	Young adults	Older adults
All participants	50.0***	62.5	57.2***	68.0	21.3***	15.2
Australia	31.1***	69.7	33.3***	72.2	10.6**	17.2
Canada	52.3***	60.8	59.8***	67.9	17.8**	12.9
France	33.8***	55.6	58.8	66.7	27.1**	16.7
Germany	66.0	74.7	82.7	80.6	22.1*	14.2
Netherlands	61.5	65.7	59.2	64.6	22.3	21.9
New Zealand	71.3	77.0	76.7	78.3	21.9	21.5
Norway	43.4**	58.9	48.3**	62.6	28.6***	8.0
Sweden	52.8	52	67.9*	58.9	9.5	6.2
Switzerland	35.7***	56.6	40.3***	62.5	21.5**	11.6
United Kingdom	58.2	62.9	61.3	68.9	4.1	4.6
United States	60.9	66.3	59.2**	70.9	52.2***	35.2

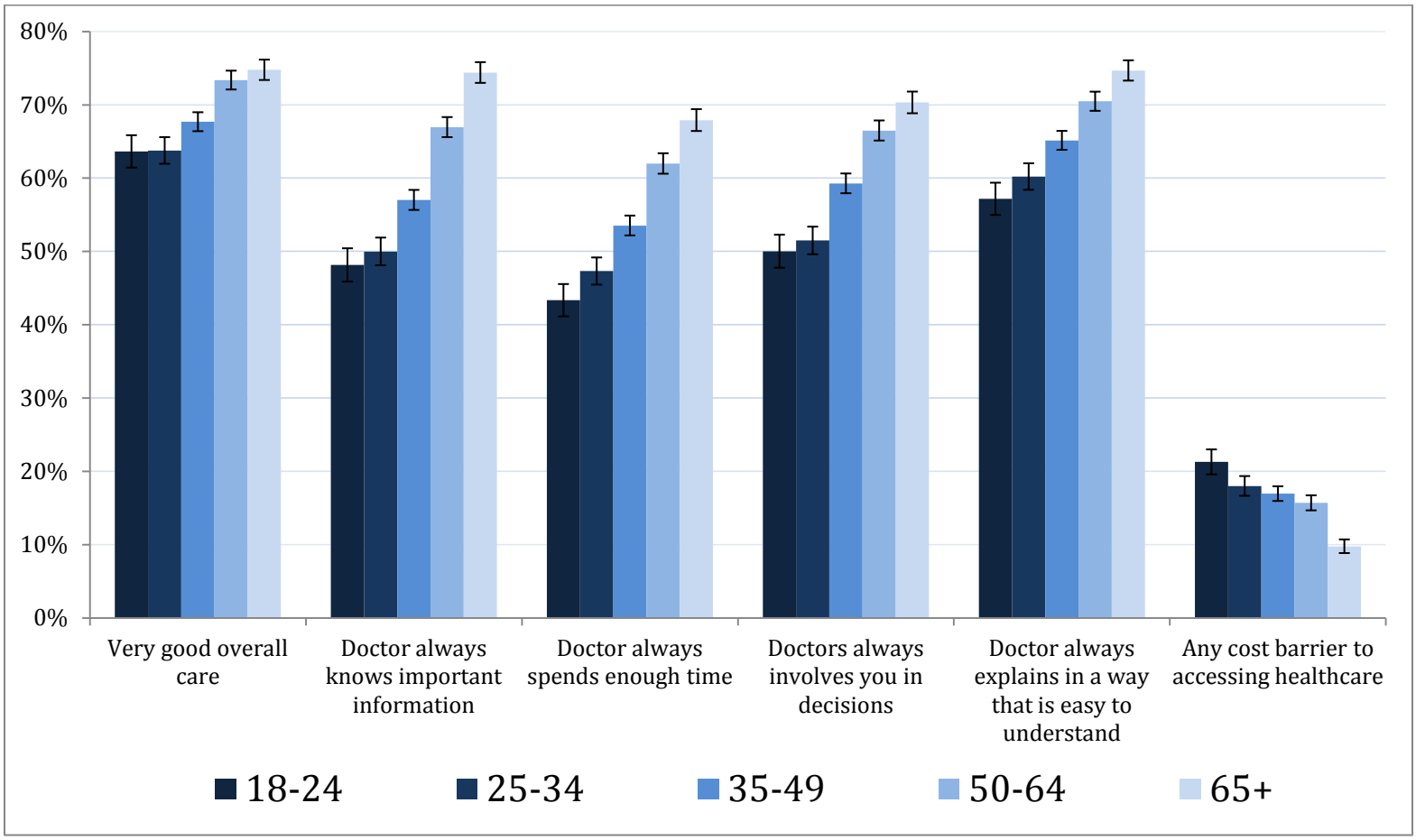
Source: Commonwealth Fund 2013 International Health Policy Survey.

Notes: Young adults =18-24 years, Older adults = 25+ years.

*p<0.05 ** p<0.01 *** p<0.001

F. Figure

Figure 1: Healthcare experience and access by age group across 11 high-income countries



Source: Commonwealth Fund 2013 International Health Policy Survey

Note: Error bars show 95% confidence intervals

F. Figure

Figure 2: Healthcare experience and access by age group and country.

Source: Commonwealth Fund 2013 International Health Policy Survey.

Note: Error bars show 95% confidence intervals

	HEALTH SYSTEM AND PUBLIC/PRIVATE INSURANCE ROLE			BENEFIT DESIGN	
	Government role	Public system financing	Private insurance role (core benefits; cost-sharing; noncovered benefits; private facilities or amenities; substitute for public insurance)	Caps on cost-sharing	Exemptions and low-income protection
Australia	Regionally administered, joint (national & state) public hospital funding; universal public medical insurance program (Medicare).	General tax revenue; earmarked income tax	~50% buy complementary (e.g., private hospital and dental care, optometry) and supplementary coverage (increased choice)	No. Safety nets include 80% rebate on OOP for payments above AUD1,248.70 [USD827] annually*	Low-income and older people: Lower cost-sharing; lowe OOP maximum (AUD624.10 [USD413]) for 80% rebate*
Canada	Regionally administered universal public insurance program that plans and funds (mainly private) provision.	Provincial/federal general tax revenue	~67% buy complementary coverage for noncovered benefits (e.g., private rooms in hospitals, drugs, dental care, optometry)	No	There is no cost-sharing for publicly covered services; pr tion for low-income people from cost of prescription dru varies by region
Denmark	National health care system. Regulation, central planning and funding by national government; provision by regional and municipal authorities.	Earmarked income tax	~40% buy complementary coverage (cost-sharing, noncovered benefits such as physiotherapy), some supplementary coverage (access to private providers)	No. Decreasing copayments with higher drug OOP spending	Drug OOP cap for chronically ill (DKK3,775 [US$488]); fi cial assistance for low-income and terminally ill*
England	National health service (NHS).	General tax revenue (includes employment-related insurance contributions)	~11% buy supplementary coverage for better access (including to elective treatment in private hospitals)	No general cap for OOP. Prepayment certificate with GBP29 [US$42] per three months or GBP104 [US$150] per year ceiling for those needing a large number of prescription drugs*	Drug cost-sharing exemption for low-income, older peo children, pregnant women and new mothers, and some abled/chronically ill; financial assistance with transport c available to people with low incomes
France	Statutory health insurance system, with all SHI insurers incorporated into a single national exchange.	Employer/employee earmarked income and payroll tax; general tax revenue, earmarked taxes	~90% buy or receive government vouchers for complementary coverage (mainly cost-sharing, some noncovered benefits); limited supplementary insurance	No. €50 [US$60] cap on deductibles for consultations and services*	Exemption for low-income, chronically ill and disabled, a children
Germany	Statutory health insurance system, with 131 competing SHI insurers ("sickness funds" in a national exchange); high income can opt out for private coverage.	Employer/employee earmarked payroll tax; general tax revenue	~11% opt out from statutory insurance and buy substitutive coverage. Some complementary (minor benefit exclusions from statutory scheme, copayments) and supplementary coverage (improved amenities)	Yes. 2% of household income; 1% of income for chronically ill	Children and adolescents <18 years of age exempt
Italy	National health care system. Funding and definition of minimum benefit package by national government; planning, regulation and provision by regional governments.	National earmarked corporate and value-added taxes; general tax revenue and regional tax revenue	~15% buy complementary (services excluded from statutory benefits) or supplementary coverage (more amenities in hospitals, wider provider choice)	No. Max €46.15 [USD61] copayment per outpatient specialist consultation or diagnostic procedure; limited copayment (regional rates) on drugs*	Exemptions for low-income older people/children, preg women, chronic conditions/ disabilities, rare diseases
Japan	Statutory health insurance system, with >3,400 noncompeting public, quasi-public, and employer-based insurers. National government sets provider fees, subsidizes local governments, insurers, and providers and supervises insurers and providers.	General tax revenue; insurance contributions	~70% buy coverage for cash benefits to cover cost-sharing. Limited role of complementary insurance not covered by statutory benefits	Yes. Coinsurance reduced to e.g. 1% after 80,100 yen [USD774] monthly cap, depending on enrollee age and income. Annual cap of total OOP payments at between JPY310,000 [USD2,997] and JPY1.26M [USD12,180] per household, depending on income and ages of household members.*	Low-income monthly OOP ceiling: 35,400 yen [$441 US reduced cost-sharing for young children, older people, with chronic conditions/disabilities, and disabilities. Soci assistance covers full costs of covered health care.a
Netherlands	Statutory health insurance system, with universally-mandated private insurance (national exchange); government regulates and subsidizes insurance.	Earmarked payroll tax; community-rated insurance premiums; general tax revenue	Private plans provide statutory benefits; 85% buy complementary coverage for benefits excluded from statutory package	No. But annual deductible of €360 [USD436] covers most cost-sharinga	Children exempt from cost-sharing; premium subsidies f low-income
New Zealand	National health care system. Responsibility for planning, purchasing, and provision devolved to geographically defined District Health Boards.	General tax revenue	~33% buy complementary coverage (for cost-sharing, specialist fees, and elective surgery in private hospitals) and supplementary coverage for faster access to nonurgent treatment	No. Reduced fees after 12 doctor visits per year/patient and no drug copayments after 20 prescriptions per year/family.	No primary care consultation charges for children under subsidies for low-income, some chronic conditions, Mao Pacific islanders
Norway	National health care system. Some direct funding and provision roles for national government and some responsibilities devolved to Regional Health Authorities and municipalties.	General tax revenue	~7% hold supplementary VHI, mainly bought by employers for providing employees quicker access to publicly covered elective services	Yes. Overall annual cost-sharing ceiling is NOK2,105 [USD234].*	Exemptions for children <16 yrs. somatic, <18 yrs psych ric, pregnant women and for some communicable disea (STDs); low-income groups receive free essential drugs a nursing care
Singapore	Government subsidies at public health care institutions and some providers; Medisave: mandatory medical savings program for routine expenses; MediShield: catastrophic health insurance; Medifund: government endowment fund to subsidize health care for low-income and those with large bills. Government regulation of private insurance, central planning and financing of infrastructure and some direct provision through public hospitals and clinics.	General tax revenue	Medisave-approved Integrated Shield Plans (private insurance plans) supplement MediShield coverage to provide catastrophic health coverage for additional ward classes. Other types of private insurance are also available, including private insurance provided by employers.	No.	Subsidized care for low-income population, with income asset-based means-test to target subsidies. Medifund a safety net to pay for low-income and people with no me to pay for their health care bills.
Sweden	National health care system. Regulation, supervision and some funding by national government; responsibility for most financing and purchasing/provision devolved to county councils.	Mainly general tax revenue raised by county councils, some national tax revenue	~5% get supplementary coverage from employers for quicker access to a specialists and elective treatment	Yes. SEK1,100 [USD126] for health services and SEK 2,200 [US$252] for drugs*	Some cost-sharing exemptions for children, adolescents pregnant women and elderly.
Switzerland	Statutory health insurance system, with universally mandated private insurance (regional exchanges); some federal legislation, with cantonal (state) government responsible for provider supervision, capacity planning, and financing through subsidies.	Community-rated insurance premiums; general tax revenue	Private plans provide universal core benefits; some people buy complementary (services not covered by statutory insurance) and supplementary (improved amenities and access); no coverage data available	Yes. 700 CHF [USD504] max after deductible*	Some copayment exemptions for <19-year-olds and CH [USD252] cap; income-related premium assistance (30% receive); maternity care fully covered*
United States	Medicare: age 65+, some disabled; Medicaid: some low-income; for those without employer coverage, state-level insurance exchanges with income-based subsidies; insurance coverage mandated, with some exemptions (13.4% of adults uninsured).	Medicare: payroll tax, premiums, federal tax revenue; Medicaid: federal, state tax revenue	Primary private insurance covers ~56% of population (employer-based and individual); supplementary for Medicare	Yes for most private insurance plans: $6,350 yearly limit for individuals; $12,700 for families as of 2014	Low-income: Medicaid; older people and some disabled Medicare; premium subsidies and lower cost-sharing for and middle-income families on the exchanges; some affo ability exemptions from insurance mandate

* All bracketed figures in USD were converted from local currency using the purchasing power parity conversion rate for GDP in 2013 reported by the Organization for Economic Cooperation and Development (2014).